

ENGINEERING STANDARDS UPDATE

[Standards are serious business](#), but this newsletter isn't.

Topics this month:

- National Engineers Week at LANL
- Training & Qual
- Interesting Global Construction Trivia
- LANL Standards Issued in January
- PM Procedure Changes
- LANL Publication and Style Guide Published
- DOE Technical Standards Action
- National Standards Action
- When Good Conduct of Engineering Isn't Followed

The Standards Homepage: <http://engstandards.lanl.gov/>

NATIONAL ENGINEERS WEEK AT LANL



This year's [National Engineers Week](#) theme, "Engineers: Inspiring Wonder," celebrates engineers, engineering students, and technicians, and all of the amazing things they do every day to make a difference in our world.

LANL's 8th annual celebration is once again sponsored ADE. It is Thursday, February 22 at the J. Robert Oppenheimer Study Center (aka Library), Santa Clara Gallery and Jemez/Cochiti Conference Room, per [Lynn Lemler](#).

Schedule

- 1:00 – 1:15 Mah Postdoctoral Publication Prize for Engineering Science presentation
1:15 – 2:00 Keynote Address: Patrick McClure, NEN-5: Kilopower project [tiny reactors for Mars]
2:00 - 4:00 Poster session of recent LANL R&D engineering projects – with refreshments

TRAINING & QUAL

[Writing Testable Requirements](#) Webinar this Friday, Feb 2, 11 a.m. – 12:30 p.m. MT

This free webinar is sponsored by the Software Div. of the Am. Soc. Quality (ASQ); membership is required, but LANL personnel can join for free; QPA website instructions [here](#). While the presenter is a software SME, the material isn't very software-specific and is very applicable to writing good requirements, whether software or hardware. So it's more of a systems engineering skill (e.g., RCDs, FRDs, ESM Ch 20). A lot of engineers would benefit greatly from

it, and besides, going out to lunch on Fridays is overrated. After registering using link above in heading, you will receive a confirmation email containing information about joining the webinar.

[View System Requirements](#)



This webinar will discuss "how to" tips for writing testable requirements, including:

- Using short, direct, complete sentences
- Making requirements internally and externally consistent
- Removing ambiguity
- Making requirements measurable
- Making requirements finite
- Including testers in the requirements peer reviews
- Defining a testing strategy for each requirements as soon as it is specified
- Tracing requirements to test cases

Electrical Standards – Wed, February 7

Four-hour course 17998 covers the electrical engineering standards in Chapter 7 of the LANL Engineering Standards Manual and discusses mandatory requirements and good practices for those involved in electrical design. Strongly suggested for electrical designers, electrical engineers, electrical safety officers, and facility managers. AEs are also encouraged to attend. Taught by Electrical Standards POC Eric Stromberg from 7:30–11:30 am, at White Rock Training Center TA-00-1308 Rm 117.

ESM Chapter 21 Software – Tues, March 13

Per [Ch. 21](#) Section SOFT-GEN, affected RLMs require 38047, Overview. Affected Software Owners (i.e., the POCs for a computer program) require both Course 38047–Overview and 34048–Owners. Courses will be in TA-55-0400 RLUOB Rooms 4503 and 4504, taught by Joy Getha as follows:

38047 ESM Chapter 21 Software Overview Course 9-11:30 a.m. (RLMs and Owners)
34048 ESM Chapter 21 Software Owner's Course 1-3 p.m. (just Owners return for this)

Note: Non-owner tech staff in ES-Div may take the a live course such as the overview, but if they don't they must take UTrain Required Reading 38040, which will show up in their to-do list if so. 38040 deadline currently Mar 2 but will likely be extended to March 30 mainly to accommodate those attending the Overview above (plus the procrastinators).

Registering for UTrain Courses

Sign up via [UTrain](#). Enter course number in search field, assign to yourself. Disenroll a similar way if you have to bail. AEs can also register; contact Yolanda Trujillo at 665-5696 or ytrujillo@lanl.gov with Z number.

INTERESTING GLOBAL CONSTRUCTION TRIVIA

From the International Code Council's Newsletter

Did you know?

[Spiral staircases in medieval castles run clockwise](#) [when ascending] due to the requirement that all knights must be right-handed ("lefties" were viewed with superstitious suspicion). Opposing forces climbing the stairs would have a harder time keeping their balance and holding their swords.



LANL STANDARDS ISSUED IN JANUARY

ESM STD-342-100	
Chapter 2 Fire Protection	Updated IFC-2015 errata file under webpage's References
Chapter 9: Facility Protection and Security Rev. 4	Minor revision to add temporary fencing in App D, clarify SCIF/SAPF App. E, and revise App. F IIDS/AACS to include Apollo from Ch 19. Updated orgs, orders, and other references throughout. Thanks to POC Jeff Mccale, Alt. Debbi Miller, others in SEC-PSS.
Chapter 11 r2: F1030.50, Radiation Protection and Att. A Guidance	Revised scope, responsibilities, and design criteria; reordered, updated references. Appendix redesignated as Attachment. Formerly UniFormat F1030.2. Updated references. Thanks to author Gerald Murrell and POC Steve Costigan in RP-PROG.

Master Specifications STD-342-200	
01 3300 Att. A- Construction Submittal Log	Updated January 25, 2018. Thanks to SI-DC-at-CoE's Christina Salazar-Barnes.
07 1113R3 Bituminous Dampproofing	Updating/correcting of references, elimination of hot applied bituminous dampproofing, updating to current manufacturers, standards and products, and general formatting. Thanks to POC Scott Richardson.
33 1000R8 Water Utilities	Allowed for substitution of alternative HDPE products with system engineer approval. Thanks to SME Mark Trujillo in ES-UI, POC Scott Bane in ES-EPD.

Std Drawings & Details STD-342-400	
Chapter 5: Structural ST-F1033-1-R1-Notes ST-F1033-2-R1-Approved Enclosure List ST-F1033-3-R1-Wall-Mounted Equipment Details Small ST-F1033-4-R1-Wall-Mounted Equipment Details Large	Updated to comply with ESM Ch. 5 Rev. 10 and CAD Standards Manual Rev. 5. Changed Sheet numbers. Thanks to Ben Winter and Glen Pappas.

In honor of the Security Chapter revision:

ACCESS CONTROL??



YES, WE HAVE IT!

PM PROCEDURE CHANGES (SELECTED)

These 350-series APs from PADCAP, revised in the last 3 months, are applicable to projects subject to [SD350](#), *Project Management for Capital Asset Acquisition and Construction* (looks like most anything involving capital funding, plus Environmental Programs and also some expense-funded projects over \$50k). Per Crystal Lucero, the APs are in the adpmdocs repository in [EDMS](#) (like the other PM and MSS docs; EDMS is under Top Tools on LANL homepage); if you have access issues, email project-dcrm@lanl.gov.

AP-350-406, R2, Startup and Commissioning (including FM01-FM12)

AP-350-410, R7, 11/5/17 Nonconformance (NCR) Reporting
Supplements the implementation of P330-6, *Nonconformance Reporting*. It includes a new Subcontractor Nonconformance Report Form FM01 that's a transmittal for Sub-generated NCRs, allowing LANL to accept (or not) Repair and Use-as-Is problems. The form was derived from CoE's Subcontractor Deviation Disposition Request (SDDR) Form 2178 which is used when suppliers of custom equipment like gloveboxes can't meet spec.

AP-350-420, R5, Project Turnover and Acceptance (including FM01-FM06)

LANL PUBLICATION AND STYLE GUIDE PUBLISHED

This from Research Library news. I'm including since the better Standards POCs, spec authors, and other readers do a lot of writing. Casual style may be alright in social media (IMHO), but not in Lab documents.

A new guide has been published to help LANL authors in creating and publishing content for web, print and electronic publications. The [LANL Publication and Style Guide](#) (internal only) covers:

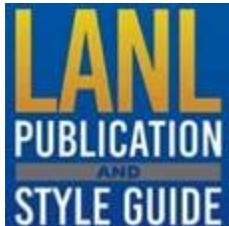
Part 1: Laboratory publishing processes – author responsibilities, copyright, review systems such as RASSTI, publication categories, web content processes.

Part 2: Editorial style – style guides, acronyms, capitalization, numbers, chemical elements, mathematical and Greek symbols and more.

Useful **appendices** are provided, for terms commonly used at the laboratory, LANL-preferred reference formats, troublesome words, technical abbreviations.

Part 3, covering basic grammar, writing, and design tips, is in the works.

The Guide was created by LANL's Communication Arts and Services (CPS-CAS)...



DOE TECHNICAL STANDARDS ACTION

STDs [postings](#) in the past month: None.

NATIONAL STANDARDS ACTION

LANL's [IHS online codes and standards](#) service reports these changes:

Document number: **ACI 315R**

Publication Date: **1/1/2018**

Title: **Guide to Presenting Reinforcing Steel Design Details**

Type of Change: **Complete Revision**

Document number: **NFPA 2001**

Publication Date: **1/1/2018**

Title: **Standard on Clean Agent Fire Extinguishing Systems**

Type of Change: **Complete Revision**



Engineering Workbench

WHEN GOOD CONDUCT OF ENGINEERING ISN'T FOLLOWED

In honor of Engineer's Week, [here](#)'s an interesting story and firestorm of 200+ comments on what it means to call oneself an engineer on the IEEE website. Shared by Heidi Hahn.

And then there's this:

Weak building code enforcement exacerbates destruction in Puerto Rico

December 5 | The Wall Street Journal

Puerto Rico has adopted building codes that include some of the strictest standards in the world when it comes to hurricane resistance. But there's a big problem: Bad enforcement. About 55 percent of all structures in Puerto Rico haven't been built to code partly because the government lacks an adequate process for code certification during the building process, according to Ricardo Alvarez-Diaz, president of the Puerto Rico Builders Association. [Read more](#)

LAST MONTH'S UPDATE TOPICS

Miss an issue? The archive is at "Monthly Update" on the [Standards homepage](#). Last month's topics:

- **Training & Qual**
- **Interesting Global Construction Trivia**
- **Engineering Processes Changes**
- **Drillco Post-Installed Concrete Anchors (Nuclear/High-Confidence)**
- **LANL Standards Issued in December**
- **DOE 851 Rule and Technical Standards Action**
- **National Standards Action**
- **When Good Conduct of Engineering Isn't Followed**

The views expressed in this email are not necessarily those of my employer.
To request a change to this newsletter's distribution, please contact me.

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